

A New Species of *Koanoa* From the Hawaiian Islands (Miridae, Hemiptera)

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Koanoa williamsi n. sp.

Whole surface polished, clothed with a rather even, moderately dense, pallid pubescence; a long bristle projecting on either side from antero-lateral angles of pronotum and four long bristles on basal antennal segment, two on inner side, one dorsal and one ventral. Dorsum obscurely, rugosely punctate.

Male. Head transverse, 11.5::14.5, the vertex one half width of head including eyes. Antennae quite stout, first two segments thicker than front tibiae; the first segment narrowed in basal third, second thick and cylindrical except narrowly at apex where it is evenly roundly narrowed, and at base where it gradually becomes more slender in basal sixth; apical two segments very slender and delicate; proportion of segments one to four as 6.5:18:9.5:7. Rostrum typical of genus, short, reaching only to hind margin of mesosternum, the proportion and shape of segments as in *hawaiiensis* Kirk. Pronotum strongly transverse, 23.5::14, but less so than in *hawaiiensis*, 27::15; posterior margin lightly emarginate at middle, otherwise evenly rounded to humeral angles; surface lightly, transversely rugose except on callosities which are simply ill-defined elevations with a faintly granular surface. Scutellum but little wider at base than long, strongly depressed at sub-basal suture, then lightly elevated and transversely rugose to apex.

Color shining black, the apical two antennal segments and basal sixth of second segment, rostrum except at tip, anterior and intermediate legs except for obscure, sub-apical fuscous rings on femora, posterior coxae more or less, trochanters, bases and apices of femora narrowly, and apical third of tibiae and tarsi testaceous. Eyes reddish brown. Membrane dark fumose throughout.

Length 2.68 mm., width (hemelytra) 1.2 mm.

Female. Differs from the male in being relatively broader behind, at level of commissure of clavus. Pronotum relatively narrower and also less strongly rounded than in the female of *hawaiiensis*. Antennal proportions 7:16.5:10:8, the basal segment as in the male, second segment slender at base, gradually thickened toward apex but even at thickest point decidedly less incrassate than in male. Eyes scarcely smaller than in male, the vertex slightly more than half total head width, 8::15.

Color much as in the male but with only apical third of second antennal segment black.

Length 2.8 mm., width (hemelytra) 1.32 mm.

Holotype male, allotype female, and four paratypes collected at the summit of Lanihuli, Oahu, 2,775 ft., II-23-'36, on *Freycinetia* (F. X. Williams and R. L. Usinger). Two paratypes, Mt. Olympus, Oahu, III-31-'35, *Freycinetia* (O. H. Swezey). In addition, two specimens are at hand, one damaged and one tenerel, as follows: S. E. Koolau Mts., Cooke trail, Oahu, June, 1917 (J. C. Bridwell) and Wailupe, Oahu, I-11-'25 (O. H. Swezey).

This species is superficially quite like *hawaiiensis* Kirkaldy but may be distinguished at once by its shorter, broader form with narrower, less rounded pronotum, by the much shorter and regular pilosity of the dorsum, by the normal sized eyes in the male, and by the differently colored antennae.

Apparently restricted to the Ieie vine, *Freycinetia arborea* Gaud., where it occurs, not uncommonly, between and at the bases of the clasping leaves particularly toward the top of the leaf cluster where the youngest and tenderest foliage is to be found.

Nymphs of four stages were taken as follows:

First instar. Very small, pink in coloration, long and subparallel in form. Rather hairy above and with darker bristles along lateral margins. Tylus quite strongly elevated. Eye facets few in number and very large. Rostrum reaching middle coxae, the first segment robust. Antennal proportions 2.5:4.5:4:6.

Length .88 mm., width (metanotum) .30 mm., width of head .26 mm.

Second (or third) instar. Body above covered with moderately long pallid hairs and a few longer, darker bristles along thoracic and head margins. Antennal segments one to four in proportion of 3.5:6:5:6. Reddish in color with brown eyes and testaceous antennae, legs, and rostrum.

Length 1.28 mm., width (abdomen) .48 mm., width of head .32 mm.

Fourth instar. Considerably larger, darker, and of more rounded form. Wing pads covering first abdominal segment laterally. Rostrum reaching middle coxae. Antennal proportions 4.5:10:6:8. Head and thorax brown.

Length 1.76 mm., width (abdomen) .82 mm., width of head .44 mm.

Fifth instar. Head and thorax dark brown, polished, covered with a fairly dense, pallid pubescence. Wing pads reaching almost to fourth abdominal segment. Pronotum, head, and basal antennal segments with the same long bristles noted in the adult. Genital segment in this, as in previous instars, produced posteriorly in the form of a tube, longer than wide. Rostrum attaining intermediate coxae. Antennal proportions 6:14:9:8, the first and second segments thickest. Tarsi with a very short basal segment

and a long apical one. Abdomen dorsally pink with broad testaceous areas posteriorly and medianly on each segment. A large circular red spot is seen at middle of second abdominal segment. Antennae, rostrum, and legs as well as center of venter light ochraceous.

Length 2.4 mm., width (wing pads) 1.04 mm., width of head .56 mm.

Two New Pacific Island Species of *Nysius* (Lygaeidae, Hemiptera)

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The occurrence of endemic insects on the low coral islands of the Pacific has yet to be adequately explained. Such a phenomenon argues either for an extremely plastic group or organisms with a ready means of dispersal or for a much longer history and previous period of emergence than has generally been accepted for these islands. The material upon which the present paper is based was collected personally by Mr. E. H. Bryan Jr. on trips of the Tanager and Itasca or was brought together by collectors encouraged by him. Types have been deposited in the collection of the B. P. Bishop Museum.

Nysius picipes n. sp.

Male. Head four-fifths as long as broad across the eyes, its surface finely, rugosely punctate and densely, irregularly clothed with short white hairs. Antennae almost as thick as basal portion of front tibiae, the first segment thickest, quite robust, second and third linear, slightly thickened at apices, fourth thicker and more densely pilose than the preceding segments; proportion of segments one to four as 8:18:15:16. Rostrum attaining posterior coxae, first segment reaching base of head, surpassing bucculae which are moderately elevated at base of rostrum and gradually decrease in height posteriorly until they disappear at a level about two thirds the distance from insertion of antennae to base of head. Pronotum as long as wide anteriorly, distinctly broader posteriorly, 29::18, its sides strongly sinuate, arcuate at level of callosities and feebly elevated at laevigate humeral angles; disk, except for finely granular callosities, pleura and sterna coarsely punctate, clothed with a white decumbent pubescence anteriorly. Scutellum broader at base than long, 19::13, strongly elevated at center, the longitudinal carina obscure; surface very coarsely punctate and clothed with decumbent white